

CLAIMS

1. A method for the feed of a mixture of cellulose chips and fluid from a low-pressure system to a high-pressure system during the continuous cooking of chemical cellulose pulp in which the feed between these systems occurs in that a sluice feeder (53") is arranged between these systems for the sluice feed of fluid and cellulose chips and where the sluice feeder (53") is equipped with a first inlet (53a"), a second inlet (53c"), a first outlet (53b") and a second outlet (53d"), and it comprises a rotor with through pockets (1", 2"), which are placed alternately in connection with the high-pressure system and the low-pressure system; where the first pocket (1") which is located at a first position is placed in connection in the low-pressure system with a chip bin (52") or with an impregnation vessel (3") essentially at atmospheric pressure while the pocket (1") is filled with the chips mixture, while at the same time expulsion of the fluid that is present in the pocket (1") takes place via the first outlet (53b"), and where the second pocket (2"), which is located at a second position and is placed via the second inlet (53d") in connection with a transfer line (6b") in the high-pressure system while the chips mixture is fed out from the pocket (2") for transport onwards to a treatment vessel (60") in the high-pressure system with the aid of a fluid that is fed into the pocket (2") through the second inlet (53c"),
characterised in that the second inlet (53c") is connected via at least one withdrawal line (70) to the treatment vessel (60"), from which treatment vessel (60") pressurised fluid is withdrawn, and that the said pressurised fluid is used to expel chips mixture from the pocket (1") when the pocket is in connection with the high-pressure system and where the previously pressurised fluid is withdrawn from the first outlet (53b") of the sluice feeder from the pocket (1") and where a portion (REC_{kik}) of the previously pressurised fluid is forwarded to a recovery system and where this portion constitutes at least 20% of the total amount (REC_{tot}) that is withdrawn for recovery, while being at least $1 \text{ m}^3/\text{tonne}$ of pulp, with the aim of reducing the total amount of electrical energy required to pump the chips suspension from low pressure to high pressure through the sluice feeder.

2. The method according to claim 1, characterised in that the principal portion of the previously pressurised fluid is forwarded to a chip bin (52") arranged before the sluice feeder (53), before the portion (REC_{extr}) of the previously pressurised fluid is forwarded to the recovery system via a withdrawal from the chip bin (52").
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3. The method according to claim 1, characterised in that the principal portion of the previously pressurised fluid is forwarded to an impregnation vessel (3") essentially at atmospheric pressure arranged
10 before the sluice feeder before a portion (REC_{extr}) of the previously pressurised fluid is forwarded to the recovery system via a withdrawal from the impregnation vessel (3"), which is at atmospheric pressure.
4. The method according to claims 1-3, characterised in that at least
15 a portion of the pressurised fluid is withdrawn from the treatment vessel (60") with a strainer (90) at a position in the treatment vessel (60") where the chips have had a retention time greater than 60 minutes, preferably greater than 100 minutes.
- 20 5. The method according to claim 4, characterised in that at least a portion of the pressurised fluid is withdrawn from a top separator (91) on the treatment vessels (60").
6. The method according to claims 1-5, characterised in that a
25 recirculation line (71) comprising at least one high-pressure pump (72) extends from the first outlet (53b") of the sluice feeder to the second inlet (53c") of the sluice feeder for withdrawal of a portion of the previously pressurised fluid that has been expelled from the pockets of the sluice feed when these are located at their first positions, for the addition of this portion
30 as makeup fluid to the second inlet (53c") of the sluice feeder.
7. The method according to claim 1, characterised in that the complete amount (REC_{klk}) of the previously pressurised fluid is forwarded to the recovery system.

ARTICLE 19

PCT/SE04/1985

AMENDED CLAIMS

[received by the International Bureau on 09 May 2005 (09.05.2005);
Claims 1, replaced or changed]

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1. A method for the feed of a mixture of cellulose chips and fluid from a low-pressure system to a high-pressure system during the continuous cooking of chemical cellulose pulp in which the feed between these systems occurs in that a sluice feeder (53") is arranged between these systems for the sluice feed of fluid and cellulose chips and where the sluice feeder (53") is equipped with a first inlet (53a"), a second inlet (53c"), a first outlet (53b") and a second outlet (53d"), and it comprises a rotor with through pockets (1", 2"), which are placed alternately in connection with the high-pressure system and the low-pressure system; where the first pocket (1") which is located at a first position is placed in connection in the low-pressure system with a chip bin (52") or with an impregnation vessel (3") essentially at atmospheric pressure while the pocket (1") is filled with the chips mixture, while at the same time expulsion of the fluid that is present in the pocket (1") takes place via the first outlet (53b"), and where the second pocket (2"), which is located at a second position and is placed via the second inlet (53d") in connection with a transfer line (6b") in the high-pressure system while the chips mixture is fed out from the pocket (2") for transport onwards to a treatment vessel (60") in the high-pressure system with the aid of a fluid that is fed into the pocket (2") through the second inlet (53c"),
- characterised in that the second inlet (53c") is connected via at least one withdrawal line (70) to the treatment vessel (60"), from which treatment vessel (60") pressurised fluid is withdrawn, and that the said pressurised fluid is used to expel chips mixture from the pocket (1") when the pocket is in connection with the high-pressure system and where the previously pressurised fluid is withdrawn from the first outlet (53b") of the sluice feeder from the pocket (1") and where a portion (REC_{kik}) of the previously pressurised fluid is forwarded directly to a recovery system and where this portion constitutes at least 20% of the total amount (REC_{tot}) that is withdrawn for recovery, while being at least $1 \text{ m}^3/\text{tonne}$ of pulp, with the aim of reducing the total amount of electrical energy required to pump the chips suspension from low pressure to high pressure through the sluice feeder.

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1. A method for the feed of a mixture of cellulose chips and fluid from a low-pressure system to a high-pressure system during the continuous cooking of chemical cellulose pulp in which the feed between these systems occurs in that a sluice feeder (53'') is arranged between these systems for the sluice feed of fluid and cellulose chips and where the sluice feeder (53'') is equipped with a first inlet (53a''), a second inlet (53c''), a first outlet (53b'') and a second outlet (53d''), and it comprises a rotor with through pockets (1'', 2''), which are placed alternately in connection with the high-pressure system and the low-pressure system; where the first pocket (1'') which is located at a first position is placed in connection in the low-pressure system with a chip bin (52'') or with an impregnation vessel (3'') essentially at atmospheric pressure while the pocket (1'') is filled with the chips mixture, while at the same time expulsion of the fluid that is present in the pocket (1'') takes place via the first outlet (53b''), and where the second pocket (2''), which is located at a second position and is placed via the second inlet (53d'') in connection with a transfer line (6b'') in the high-pressure system while the chips mixture is fed out from the pocket (2'') for transport onwards to a treatment vessel (60'') in the high-pressure system with the aid of a fluid that is fed into the pocket (2'') through the second inlet (53c''),
- characterised in that the second inlet (53c'') is connected via at least one withdrawal line (70) to the treatment vessel (60''), from which treatment vessel (60'') pressurised fluid is withdrawn, and that the said pressurised fluid is used to expel chips mixture from the pocket (1'') when the pocket is in connection with the high-pressure system and where the previously pressurised fluid is withdrawn from the first outlet (53b'') of the sluice feeder from the pocket (1'') and where a portion (REC_{klk}) of the previously pressurised fluid is forwarded directly to a recovery system and where this portion constitutes at least 20% of the total amount (REC_{tot}) that is withdrawn for recovery, while being at least $1 \text{ m}^3/\text{tonne}$ of pulp, with the aim of reducing the total amount of electrical energy required to pump the chips suspension from low pressure to high pressure through the sluice feeder.